UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590
REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: Fairport, NY Geospatial Monitoring of Air Pollution (GMAP) Mobile Monitoring Campaign; April 12th to April 13th, 2022

FROM: Marta Fuoco, Physical Scientist
Air Monitoring and Analysis Section

MARTA FUOCO
Digitally signed by MARTA FUOCO
Date: 2022.06.07 13:05:01 -05'00'

TO: Cristina Presmanes OR Carrie Cummings
Air Monitoring and Analysis Section

On April 12th and April 13th, 2022, USEPA collected air monitoring data to evaluate the ambient air concentrations of hydrogen sulfide (H_2S), methane (CH_4), benzene (C_6H_6), toluene (C_7H_8), and p-xylene (C_8H_{10}) near two landfills located in Fairport, NY and Seneca Falls, NY. All parameters passed quality control (QC) pre-checks on April 12th, 2022, and QC post-checks on April 13th, 2022, and were flagged accordingly.

This memorandum officially submits 55 field measurement files and 2 QC files for your review and validation. Also included are all necessary supporting documentation. The data sets are available on the 2022 GMAP Season shared data repository and have been appropriately protected against inadvertent manipulation. The QAQC table (Table 1) and flag descriptions (Table 2) can be found in Attachment 1. Please see Attachment 2 for the Activity Log files; the entire set of QC and calibration files will be submitted electronically. The file names and dates of data collection are below.

NOTE: Field personnel identified an issue with the sampling configuration after monitoring was completed. The Picarro ¼ inch sampling line was not connected to the main sampling tube. Although the line was not directly connected to the main sampling tube, the Picarro was still pulling in a sample from the air through which the truck was traveling. Windows were lowered in the vehicle allowing for circulation of air and thus providing ambient air to be sampled by the instrument. Data are flagged with qualifier code 3 (See Attachment 1, Table 2), a field issue.

	Flagged Data File	Date Collected
High Acres Mapping	HA220412_MA01	4/12/2022
	HA220412_MA02	4/12/2022
	HA220412_MA03	4/12/2022
	HA220412_MA04	4/12/2022
	HA220412_MA05	4/12/2022
	HA220412_MA06	4/12/2022
	HA220412_MA07	4/12/2022
	HA220412_MA08	4/12/2022
	HA220412_MA09	4/12/2022
	HA220412_MA10	4/12/2022
	HA220412_MA11	4/12/2022
	HA220412_MA12	4/12/2022
	HA220412_MA13	4/12/2022
	HA220412_MA14	4/12/2022
	HA220412_MA15	4/12/2022
	HA220413_MA01	4/13/2022
	HA220413_MA02	4/13/2022
	HA220413_MA03	4/13/2022
	HA220413_MA04	4/13/2022
	HA220413_MA05	4/13/2022
	HA220413_MA06	4/13/2022
	HA220413_MA07	4/13/2022
	HA220413_MA08	4/13/2022
	HA220413_MA09	4/13/2022
	HA220413_MA10	4/13/2022
	HA220413_MA11	4/13/2022
	HA220413_MA12	4/13/2022
	HA220413_MA13	4/13/2022
	HA220413_MA14	4/13/2022
	HA220413_MA15	4/13/2022
	HA220413_MA16	4/13/2022
	HA220413_MA17	4/13/2022
	HA220413_MA18	4/13/2022
High Acres Stationary	HA220413_ST01	4/13/2022
	HA220413_ST02	4/13/2022
	HA220413_ST03	4/13/2022

	Flagged Data File	Date Collected
High Acres Onsite Mapping	HAonsite220412_MA01	4/12/2022
	HAonsite220412_MA02	4/12/2022
	HAonsite220412_MA03	4/12/2022
	HAonsite220412_MA04	4/12/2022
	HAonsite220412_MA05	4/12/2022
	HAonsite220412_MA06	4/12/2022
	HAonsite220413_MA01	4/13/2022
	HAonsite220413_MA02	4/13/2022
High Acres Onsite Stationary	HAonsite220412_ST01	4/12/2022
	HAonsite220412_ST02	4/12/2022
	HAonsite220412_ST03	4/12/2022
	HAonsite220413_ST01	4/13/2022
	HAonsite220413_ST02	4/13/2022
Seneca Meadows Mapping	SM_041322_MA01	4/13/2022
	SM_041322_MA02	4/13/2022
	SM_041322_MA03	4/13/2022
	SM_041322_MA04	4/13/2022
Seneca Meadows Onsite Mapping	SMonsite_041322_MA01	4/13/2022
	SMonsite_041322_MA02	4/13/2022

Attachment 1

Table 1: QAQC Table

Pollutant	MDL	RL	High Span	Accuracy 4/12/22	Accuracy 4/13/22	Precision
H_2S (ppb)	8.68	26.04	10300	0.90%	4.15%	3.461212
CH_4 (ppm)	0.0124	0.0372	200	1.75%	2.62%	0.52849
BEN (ppb)	4.3	21.5	106	-6.60%	-6.60%	1.151584
TOL (ppb)	5.1	25.5	98	4.10%	-11.20%	6.277251
XYP (ppb)	4.15	20.75	101.9	1.10%	-10.60%	6.631265

Table 2: GMAP AQS Data Codes

Qualifier Code	Qualifier Description	Qualifier Type Desc	Qualifier Type	EPA R5 Comments
3	Field Issue	Quality Assurance Qualifier	QA	Issue identified by field personnel (see *NOTE* on page 3)
AM	Miscellaneous Void	Null Data Qualifier	NULL	
AN	Machine Malfunction	Null Data Qualifier	NULL	Communication error; instrument not collecting, data set to null [NA]
AT	Calibration	Null Data Qualifier	NULL	
AZ	QC Audit	Null Data Qualifier	NULL	
BA	Maintenance/Routine Repairs	Null Data Qualifier	NULL	
BN	Sample Value Exceeds Media Limit	Null Data Qualifier	NULL	Values exceed the range of unit in one or more channels and are invalid; both channels invalidated

EH	Estimated; Exceeds upper range	Quality Assurance Qualifier	QA	Value above highest QC span check concentration
MD	Value less than MDL	Null Data Qualifier	NULL	Less than MDL; invalid
ND	No value detected	Quality Assurance Qualifier	QA	Zero drift; [MDL x -1]
PQ	Values between MDL & PQL	Quality Assurance Qualifier	QA	Practical quantitation limit/reporting limit
QX	Does not meet QC criteria	Null Data Qualifier	NULL	
SX	Does not meet siting criteria	Quality Assurance Qualifier	QA	Ex: WD readings obstructed by tree line

Attachment 2

4/12/22 K Haule
J. Hamilton

0800 EDT
Rochester, NY

Dilution System: ENV6100/SN3485/cert 4/7/22

cylinders	SN	conc	cert date	PSI
H_2S	D941648	10.30 ppm	6/15/2021	1850
H_2S	FF19845	50.69 ppm	4/6/2020	1050
CH_4	SG9202663 01AL	200 ppm	7/29/2019	950
BTEX	D861312	106/98/101/4 B/T/X/P (ppb)	8/9/2020	1150

G2204 QC check (filename: 220412-CA01)

Time	Pollutant	T. flow	Std (ppm)	Rdg (ppm)	% diff
0815	H_2S	5000	~~0.004~~ Z KH 4/12/22	0.001	NA
0839	CH_4	5000	Z	0.003	NA
0827	H_2S	2000	2.00	2.072	3.6%
0831	H_2S	5000	0.500	0.514	2.8%
0836	H_2S	5000	0.069	0.067	-2.9%
0847	CH_4	2500	6.00	6.05	0.8%
0852	CH_4	2500	4.00	4.05	1.2%
0856	CH_4	4000	2.00	2.01	0.5%
0901	H_2S	NA	10.30	10.31	0.1%
0904	CH_4	NA	200	209	4.5
0907	H_2S	5000	Z	0.003	NA
0907	CH_4	5000	Z	0.12	NA

(cont. next page)

Rochester, NY

4/12/22 (cont)

DV3000 QC check (filename: 220412_CA01)

Time	Pollutant	Std (ppb)	Cdg (ppb)	% diff
0819	diodes	response	generated	*
0821	B	Z	1	NA
0821	T	Z	0	NA
0821	XYP	Z	-1	NA
0828	B	106	99	-6.6%
0828	T	98	102	4.1%
0828	XYP	101.9	103	1.1%
0838	B	Z	-4	NA
0838	T	Z	1	NA
0838	XYP	Z	-2	NA

Time check: Picarro 0907 GMAP 0907 phone 0907 (EDT)

END: 0908

15:55
Rochester, NY

4/13/22 K. Hale
S. Hamilton

Dilution system: ENV6100 SN3485 cert 4/7/2022

cylinders	SN	conc.	cert.	psi
H_2S	DQ11648	10.30 ppm	6/15/2021	1950
H_2S	FF19845	50.69 ppm	4/6/2020	1100
CH_4	63D1ACL	200 ppm	7/29/2019	1000
BTEX	D861312	106/98/101.9 ppb B/T/X/P	8/9/2020	1150

G2204 QC check: (filename: 220413_CA01)

Time	pollutant	T. flow	Std (ppm)	Rdg (ppm)	% diff
1557	H_2S	5000	z	-0.0006	NA
1618	CH_4	5000	z	0.013	NA
1609	H_2S	2000	2.00	2.11	5.5%
1613	H_2S	5000	0.499	0.529	6.0%
1617	H_2S	5000	0.069	0.072	4.3%
1623	CH_4	2500	5.99	6.11	2.0%
1627	CH_4	2500	3.99	4.09	2.5%
1630	CH_4	4000	2.00	2.03	1.5%
1635	H_2S	NA	10.30	10.38	0.8%
1638	CH_4	NA	200	209	
1641	H_2S	5000	z	0.003	NA
1641	CH_4	5000	z	0.12	NA

4/13/2022 (cont)

DV3000 QC Check (filename: 220413_CA01)

Time	Pollutant	Std (ppb)	Rdg (ppb)	% diff
1558	B	2	6	NA
1558	T	2	1	NA
1558	XYP	2	-1	NA
1607	B	106	99	-6.6%
1607	T	98	87	-11.2%
1607	XYP	101.9	91	-10.6%
1611	B	2	6	NA
1611	T	2	3	NA
1611	XYP	2	-2	NA

Time Check: picarro 1642 GMAP 1643 phone 1643

END: 1645